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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,354	04/12/2006	Roger W. Avakian	1200320 WO	8108
35227	7590	11/29/2007	EXAMINER	
POLYONE CORPORATION			CHEN, VIVIAN	
33587 WALKER ROAD			ART UNIT	
AVON LAKE, OH 44012			PAPER NUMBER	
			1794	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,354	<b>Applicant(s)</b> AVAKIAN ET AL.	
	<b>Examiner</b> Vivian Chen	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-19 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6, 8, 12-16, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

DOWLINGS (US 6,402,933).

DOWLINGS discloses an anticorrosion coating for metal substrates (e.g., steel) wherein the coating comprises a conductive polymer binder, carbon fibers, and zinc metal particles. Metal substrates are protected from corrosion by mixing the carbon fibers and metal particles into said binder to produce a coating, then applying said coating on metal substrates. (entire document, e.g., line 12-23, col. 1; line 1-26, col.5; column 6; etc.)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a conductive carbon filler in the coating compositions of DOWLINGS in order to provide a cathodic protection coating to prevent corrosion. One of ordinary skill in the art would have adjusted the relative amounts of carbon and metal particles

(claim 19) depending on the specific electric and galvanic properties desired for specific applications.

3. Claims 1-3, 6, 8, 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

HOPPE-HOFFLER ET AL (US 5,378,335).

HOPPE-HOFFLER ET AL discloses an anticorrosion coating for metal substrates (e.g., steel) wherein the coating comprises a polymer binder, 1-15 wt% carbon filler, and up to 12 wt% zinc metal particles. Metal substrates are protected from corrosion by mixing the carbon filler and metal particles into said binder to produce a coating, then applying said coating on metal substrates. (entire document, e.g., line 49-58, col. 1; line 57, col. 5 to line 33, col. 6; etc.)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a conductive carbon filler in the coating compositions of DOWLINGS in order to provide a cathodic protection coating to prevent corrosion. One of ordinary skill in the art would have utilized other known forms of carbon (e.g., fibers) (claim 3) in the composition in order to improve the durability and mechanical properties of the coating. One of ordinary skill in the art would have adjusted the relative amounts of carbon and metal particles (claim 19) depending on the specific electric and galvanic properties desired for specific applications.

4. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) DOWLINGS (US 6,402,933), or

(b) HOPPE-HOFFLER ET AL (US 5,378,335),

as applied in claim 1 above,

and further in view of CARBON NANOTUBES (Collins et al.) or CARBON NANOTUBES (Baughman et al.).

CARBON NANOTUBES (Collins et al.) and CARBON NANOTUBES (Baughman et al.) disclose that it is well known in the art to utilize carbon single-wall and multi-wall nanotubes as conductive fillers in polymer compositions in order to obtain improved electrical conductivity and superior mechanical properties at lower loadings compared to conventional carbon fillers. (CARBON NANOTUBES (Collins et al.), entire document) (CARBON NANOTUBES (Baughman et al.), pages 788-789)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made incorporate a known conductive carbon filler such as nanotubes in the coating compositions of DOWLINGS in order to provide an effective cathodic protection coating with improved mechanical properties at lower carbon loadings.

5. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) DOWLINGS (US 6,402,933), or

(b) HOPPE-HOFFLER ET AL (US 5,378,335),

as applied in claim 1 above,

and further in view of HUANG ET AL (US 5,650,060).

HUANG ET AL discloses that it is well known in the art to incorporate a complexing agent in polymeric anticorrosion coating compositions in order to prevent passivation of

sacrificial metal particles and increase the longevity of the cathodic protection provided. (line 30-55, col. 2; columns 5-7).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a known complexing agent additive as disclosed in HUANG ET AL in order to improve the effective use life of an anticorrosion coating.

***Allowable Subject Matter***

6. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest a cathodic protection coating comprising a binder, conductive carbon, and metal particles, wherein the binder is a pressure sensitive adhesive.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 23, 2007



Vivian Chen  
Primary Examiner  
Art Unit 1773